Owner's Operator and Maintenance Manual

Side Entry Whirlpool Tub

Model 3600 & Model 3600XL



Model 3650



AFTER INSTALLATION, PLEASE CALL CUSTOMER SERVICE AT 1-800-668-2337 TO ARRANGE FOR AN IN-SERVICE ON THE TUB

DEALER: This manual MUST be given to the user of the tub.

USER: BEFORE using this tub, read this manual and save for future reference.

For more information regarding Invacare Continuing Care Group products, parts, and services, please visit www.invacare-ccg.com

INVACARE

CONTINUING CARE GROUP

⚠ WARNING

DO NOT use this product or any available optional equipment without first completely reading and understanding these instructions and any additional instructional material such as owner's manuals, service manuals or instruction sheets supplied with this product or optional equipment. If you are unable to understand the warnings, cautions or instructions, contact a healthcare professional, dealer or technical personnel before attempting to use this equipment - otherwise, injury or damage may occur.

The initial set up of this tub MUST be performed by a qualified technician.

Procedures other than those described in this manual MUST be performed by a qualified technician.

⚠ ACCESSORIES WARNING

Invacare products are specifically designed and manufactured for use in conjunction with Invacare accessories. Accessories designed by other manufacturers have not been tested by Invacare and are not recommended for use with Invacare products.

For further information on this product, please call the following:

Customer Service - 1-800-668-2337

Technical Support - 1-800-668-2337

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SPECIAL NOTES

Signal words are used in this manual and apply to hazards or unsafe practices which could result in personal injury or property damage. Refer to the following table for definitions of the signal words.

SIGNAL WORD	MEANING
DANGER	Danger indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
WARNING	Warning indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
CAUTION	Caution indicates a potentially hazardous situation which, if not avoided, may result in property damage or minor injury or both.

NOTICE

THE INFORMATION CONTAINED IN THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE.

⚠ WARNING

RADIO FREQUENCY INTERFERENCE

Most electronic equipment is influenced by Radio Frequency Interference (RFI). CAUTION should be exercised with regard to the use of portable communication equipment in the area around such equipment. If RFI causes erratic behavior, turn the power off IMMEDIATELY. DO NOT turn the power on while transmission is in progress.

MAINTENANCE

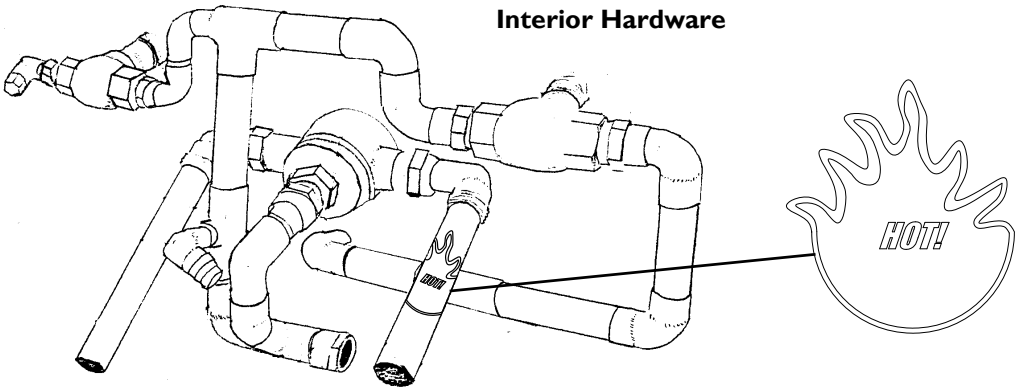
Maintenance MUST be performed only by qualified personnel.

Information on maintenance and adjustment of the thermoscopic mixing valve (RADA) is in the RADA Owner's Manual which is included with this product.

Use this unit only for its intended use as described in this manual. DO NOT use attachments not recommended by the manufacturer.

LABEL LOCATION

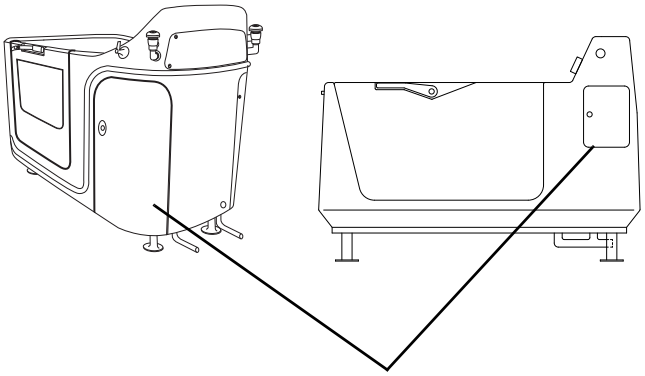
Interior Hardware



Labels located inside the Disinfecting Cabinet Door

Model 3650

Models 3600 and 3600XL



Disinfecting Cabinet Door

INVACARE

MODEL NO.

SERIAL NO.

U.S.AND FOREIGN PATENTS PENDING

INVACARE CONTINUING CARE GROUP

MODEL NUMBER | MFG. DATE

DANGER-RISK OF ELECTRIC SHOCK - Connect only to a circuit that is protected by a ground-fault circuit interrupter (GFCI)

VOLTS: 115 VAC
AMPS:
CYCLE 60

USE COPPER CONDUCTORS ONLY

WIRING DIAGRAM

3 wires required in power supply circuit

FOR SUPPLY CONNECTION, USE WIRE SIZED ON THE BASIS OF 60°C AMPACITY AND RATED MINIMUM 90°C

Part Number PAR9992

⚠ WARNING

DO NOT install a heater in the tub. Installing a heater will violate safety codes and may result in scalding injuries to the user.

P/N 1150694 Rev A

CAUTION

Some state and local plumbing codes require the installation of a "reduced pressure zone" (RPZ) assembly on both the incoming hot and cold supply lines to prevent back flow contamination into the potable water system. Invacare recommends you check local plumbing code requirements to determine if RPZs are required on your tub installation. RPZs are NOT supplied by Invacare and are to be provided by the customer if required.

P/N 1150759 Rev A

⚠ WARNING

This dispensing system has been factory tested and calibrated for use with INVACARE Disinfectant. The use of any disinfectant with a dilution ratio or viscosity level different than that of INVACARE Disinfectant will result in an improper mixture of disinfectant and water. This may cause your system to be improperly disinfected - or in some instances, not disinfected at all. If you choose to use a product other than INVACARE Disinfectant, Invacare will not be responsible for the proper calibration or function of your disinfectant system.

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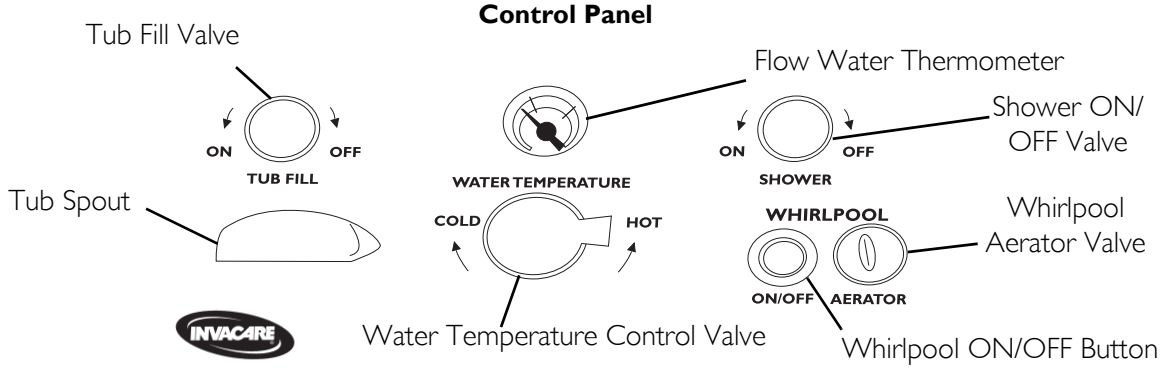
TYPICAL PRODUCT PARAMETERS

MODEL	3600	3600XL	3650
MINIMUM SPACE REQUIREMENTS:	7 feet x 6 feet		
LENGTH EXTERIOR: INTERIOR:	 63 inches 46.5 inches	 72 inches 56 inches	 67 inches 56 inches
WIDTH EXTERIOR: INTERIOR (SEAT):	 34 inches 32 inches		 32 inches 26 inches
HEIGHT OVERALL: RIM:	 44 inches 35.5 inches		 45 inches 35.5
SIDE ACCESS DOOR SWING:	40 inches		38.5 inches
VOLUME CAPACITY (WITHOUT USER):	44 gallons	64 gallons	
LIFT BASE CLEARANCE:	6 inches	6 inches	6¼ inches
WHIRLPOOL PUMP SANITATION: MOTOR:	 Drain with back flush 1 HP, 115 VAC, 60 HZ, 15		
JET OUTLETS (ADJUSTABLE/DIRECTIONAL):	2 jets	4 jets	4 jets
TUB MATERIAL:	Double wall gel coated fiberglass		
THERMOMETER:	2 inch dial, 40° F to 140° F range		
ANTI-SCALD WATER REGULATOR:	RADA 222 thermoscopic mixing valve		
WATER SUPPLY:	¾ inch hot and cold		
DRAIN SIZE:	2 inches		
FILL RATE:	24 gallons per minute		
DRAIN RATE:	25 gallons per minute		
COLOR:	White		
WEIGHT FILLED W/O USER: EMPTY: SHIPPING:	 796 pounds 252 pounds 319 pounds	 1,012 pounds 274 pounds 380 pounds	 903 pounds 263 pounds 350 pounds
APPROVALS:	UL		

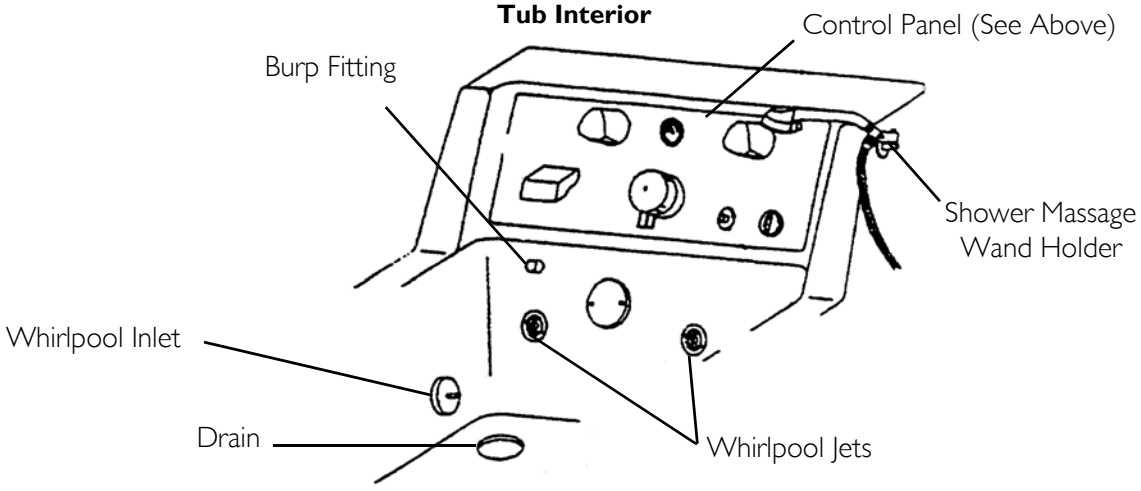
FEATURES

Models 3600 and 3600XL

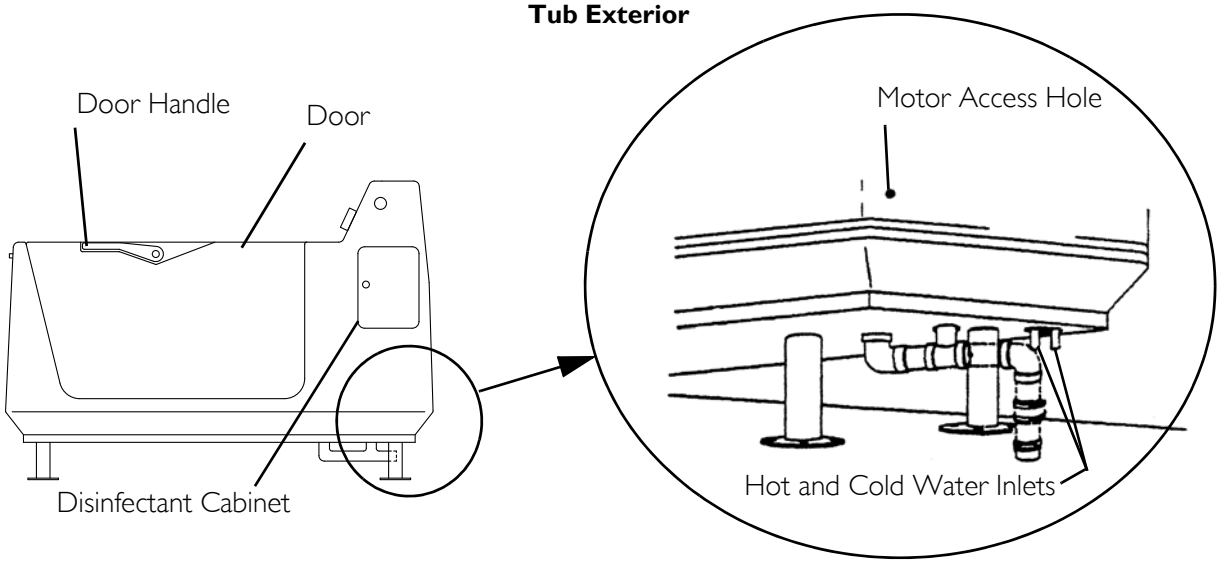
Control Panel



Tub Interior

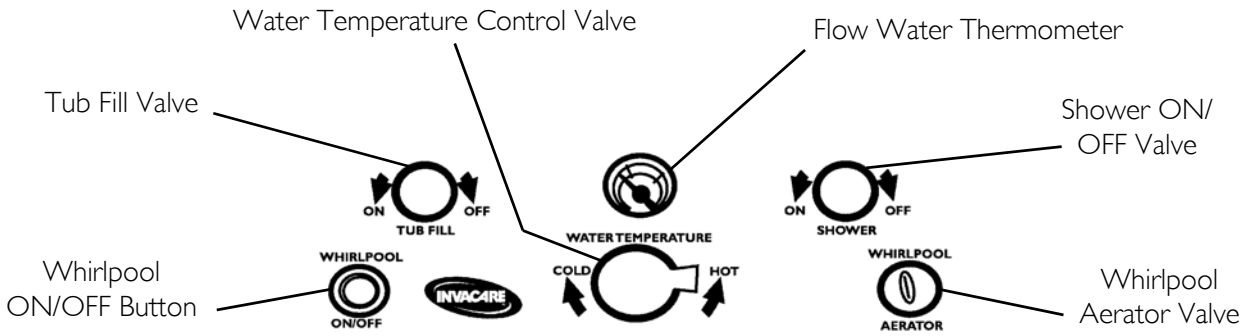


Tub Exterior

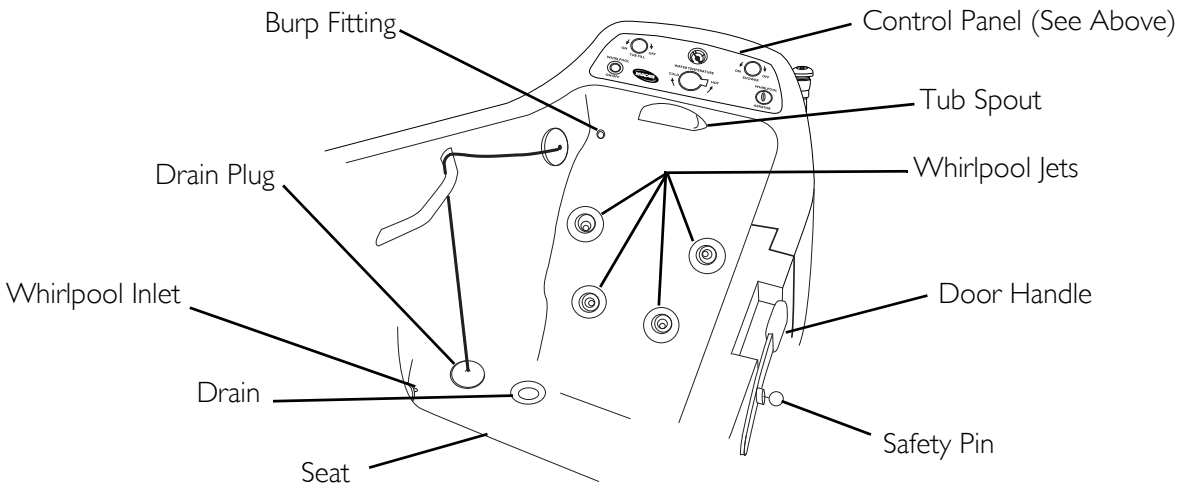


Model 3650

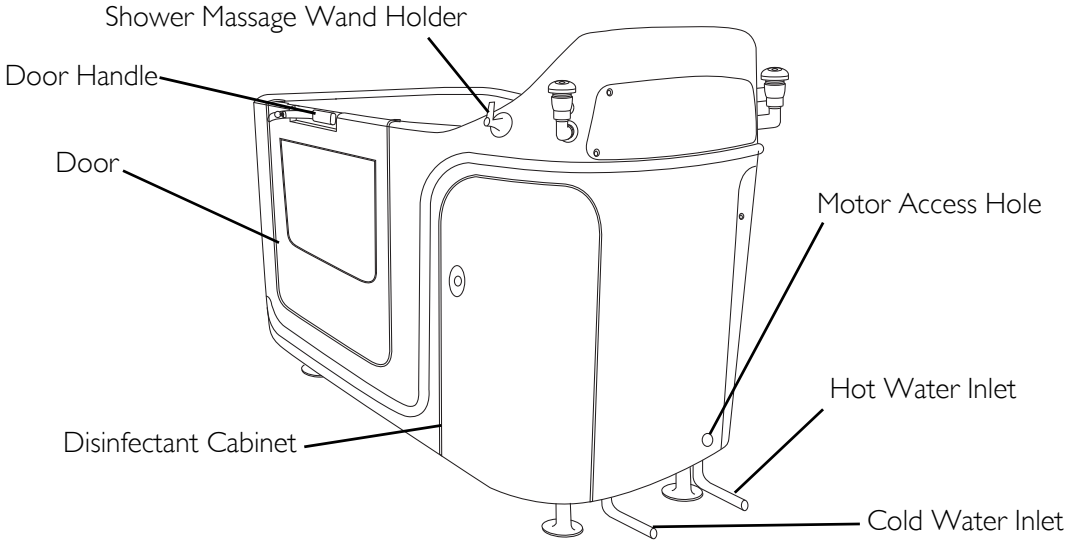
Control Panel



Tub Interior



Tub Exterior



SECTION 1—GENERAL GUIDELINES

⚠ WARNING

SECTION 1 - GENERAL GUIDELINES contains important information for the safe operation and use of this product.

Check all parts for shipping damage before using. In case of damage, DO NOT use the equipment. Contact the ICCG dealer for further instructions.

SAVE THESE INSTRUCTIONS

Important Safety Instructions

Instructions Pertaining to a Risk of Fire, Electric Shock, or Injury to Persons

⚠ DANGER

To reduce the risk of injury, DO NOT permit children to use this unit unless they are closely supervised at all times.

⚠ WARNING

When using this unit, basic precautions should be always be followed, including the following:

READ AND FOLLOW ALL INSTRUCTIONS.

Use this unit only for its intended use as described in this manual. DO NOT use attachments not recommended by the manufacturer.

NEVER drop or insert any object into any opening.

DO NOT operate this unit without the guard over the suction fitting.

Installation

ICCG assumes no responsibility for code infractions or damage to components due to improper installation.

Use extreme care during installation.

The installation area MUST be able to support the 65 pounds per square inch load capacity of the tub.

After installation and before use ensure all parts are properly and securely installed.

Ensure bathroom floor is dry and free of obstructions before transporting or assembling the unit.

Electrical

Be certain ALL electrical work is performed by a qualified electrician and is in compliance with local electrical codes.

ALL electrical connections are to be water resistant.

Grounding

⚠ DANGER

Grounding is required. The unit should be installed by a qualified service representative and grounded.

⚠ WARNING

The unit MUST be connected only to a supply circuit that is protected by a ground fault circuit-interrupter (GFCI). Such a GFCI should be provided by the installer and should be tested on a routine basis. To test the GFCI, push the test button. The GCFI should interrupt power. Push the resest button. Power should be restored. If the GCFI fails to operate in this manner, GFCI is defective. If the GFCI interrupts power to the bathtub without the test button being pushed, a ground current is flowing, indicating the possibility of an electric shock. DO NOT use this hydro massage bathtub. Disconnect the hydro massage bathtub and have the problem corrected by a qualified service representative before using.

A GREEN-colored terminal (or a wire connector marked "G," "GR," "Ground," or "Grounding") is provided within the terminal compartment. To reduce the risk of electric shock, connect this terminal or connector to the grounding terminal of your electric service or supply panel with a conductor equivalent in size to the circuit conductors supplying this equipment.

Plumbing

Be certain all plumbing work is performed by a qualified plumber and is in compliance with local codes.

Some state and local plumbing codes require the installation of a "reduced pressure zone" (RPZ) assembly on both the incoming hot and cold supply lines to prevent back flow contamination into the potable water system. Invacare recommends you check local plumbing code requirements to determine if RPZs are required on your tub installation. RPZs are NOT supplied by Invacare and are to be provided by the customer if required.

When operating water pressure exceeds 55 PSI, pressure regulators (similar to the ¾-inch Watts U5) MUST be installed.

The hot water supply to the tub MUST not exceed 110° F (43° C) to protect the user from scalding.

Maintenance and Inspection

⚠ DANGER

ELECTRICAL SHOCK HAZARD. All disassembly and maintenance of the tub MUST be done by a qualified technician, certified electrician or plumber. Disconnect electrical supply or turn off circuit breaker before performing any maintenance to the tub.

If any part of the system is not functioning properly, DO NOT use the system. Have the system serviced to correct the problem.

The system MUST be maintained on a regular basis to ensure it is functioning properly.

Disinfecting

Disinfect the tub after initial set up and ALWAYS disinfect the tub after each use to avoid resident infection and contamination of the tub.

DO NOT disinfect the tub when it is occupied otherwise injury may occur.

ALWAYS wear gloves, protective apron, and face shield protection when disinfecting or cleaning your tub.

ALWAYS handle disinfectants, cleaning compounds, and powdered sanitizers with extreme care. Physical or mechanical damage caused by improper handling or usage of such products will not be the responsibility of ICCG.

DO NOT attempt to turn on whirlpool pump during the disinfectant cycle. Doing so could result in skin or eye contact with the disinfectant, which is corrosive. If contact is made, rinse immediately with water. If irritation occurs, consult a physician.

ALWAYS read and follow disinfectant label directions carefully.

NEVER use abrasive cleaners like scouring powder or liquid cleaners containing pumice stone. The use of these types of cleaners will make the gel-coat finish of your tub scratched and dull. NEVER use cleaners containing iodine, bromine, Betadine® or methylene blue. The use of these types of cleaners will cause the tub to stain. Never use cleaners containing bleach. Use of these types of cleaners will dry out the rubber seals and gaskets and the tub will not function properly.

Operation

⚠ DANGER

Keep hair and body away from suction guard when pump is running.

The causes, symptoms, and effects of hyperthermia may be described as follows: Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6° F. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include:

- **Failure to perceive heat**
- **Failure to recognize the need to exit the spa or hot tub**
- **Unawareness of impending hazard**
- **Fetal damage in pregnant women**
- **Physical inability to exit the spa or hot tub**
- **Unconsciousness resulting in the danger of drowning**

The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

NEVER operate whirlpool without water level above the whirlpool jets. Severe pump damage will result.

DO NOT operate this unit without the guard over the (water intake) suction fitting. The guard is a safety device that reduces the potential hazard of hair or body entrapment.

To reduce the risk of injury, DO NOT permit children or infirm persons to use this unit unless they are supervised at all times.

Recommended length of a bath is 5 to 10 minutes. However, if you become nauseous or dizzy or develop a headache, get out at once and cool down. Get medical attention if symptoms persist. Also, check with a physician before using this unit again.

Anyone under a doctor's supervision, pregnant, or with poor health, should check with a physician before using this unit.

SECTION 2—PARTS AND INSTALLATION

Parts Information

For parts information, please contact ICCG Technical Service at (800) 668-2337.

About Installation

⚠ WARNING

Access for servicing the tub MUST be provided. Install the tub in a location that will permit access to the service panels, plumbing and electrical hook-ups.

CAUTION

DO NOT lift the tub by the plumbing.

DO NOT remove or relocate the pump. Modifications to the pump location may cause the system to malfunction and will void the warranty.

The tubs are free-standing side-entry bathing and hydromassage tubs which are secured to the floor.

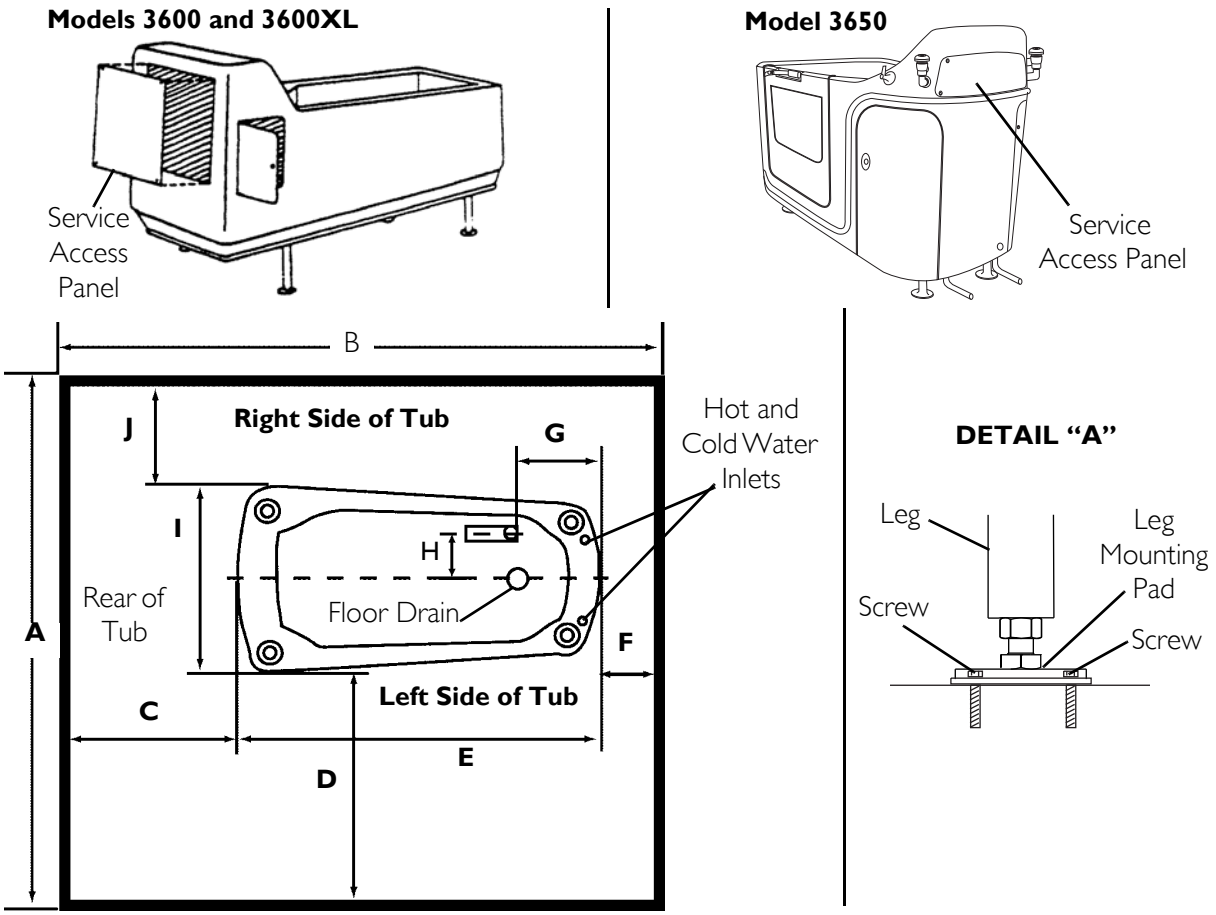
Preparing the Work Area

NOTE: For this procedure, refer to FIGURE 2.1 on page 15.

1. Determine location for the tub installation.

NOTE: Follow recommended floor plan shown in FIGURE 2.1 on page 15 when installing the tub.

2. Carefully remove the tub from carton.
3. Remove tub from shipping pallet by removing screws from leg mounting pads (Detail "A").
4. Remove the four screws securing the service access panel (FIGURE 2.1).



LETTER	DESCRIPTION	LENGTH IN INCHES
A	Work Area Width	75 minimum/96 recommended
B	Work Area Length	76 minimum/103 to allow lift access
C	Tub Rear Clearance	3 minimum/30 to allow lift access
D	Door Swing Clearance	40 minimum
E	Length of Tub	67
F	Tub Front Clearance	6
G	Drain Outlet Front to Tub Front	14
H	Tub Center to Drain Outlet Center	8
I	Tub Width	32
J	Right Side Clearance	3 minimum/24 recommended

FIGURE 2.1 Preparing the Work Area

Securing Tub

NOTE: For this procedure, refer to FIGURE 2.2.

1. Set the tub in place.
2. Ensure plumbing and electrical hook-ups have been installed. Refer to Electrical and Plumbing Hook-up Locations on the Tub on page 17, Electrical Installation on page 17 and Plumbing Installation on page 20 to ensure the proper hook-ups have been installed before securing the tub.
3. Mark location of anchor holes, using pre-drilled holes in leg mounting pads as a template.
4. Move tub away from mounting area.

⚠ WARNING

Protective eye wear MUST be worn when drilling to avoid possible eye injury.

5. Drill anchor holes in floor. Use jack-drill and carbide bit in concrete or a wood bit for wood floors.
6. Reposition the tub in mounting area, aligning the holes in the leg mounting pads with the holes drilled in STEP 4.

⚠ WARNING

DO NOT adjust height of legs more than 1 inch (25.4 mm) for Model 3650 or 2 inches (50.8 mm) for Models 3600 and 3600XL; leg will disassemble from leg mounting pad and serious injury may occur.

7. Level the tub by adjusting the telescopic legs either up or down, using a wrench, to arrive at the desired height.
8. Check to make sure tub is level by placing a level on the front and sides of the tub.
9. Repeat STEPS 6 and 7 until tub is level.
10. Secure legs to floor using fasteners appropriate to the floor material and in keeping with any local codes.

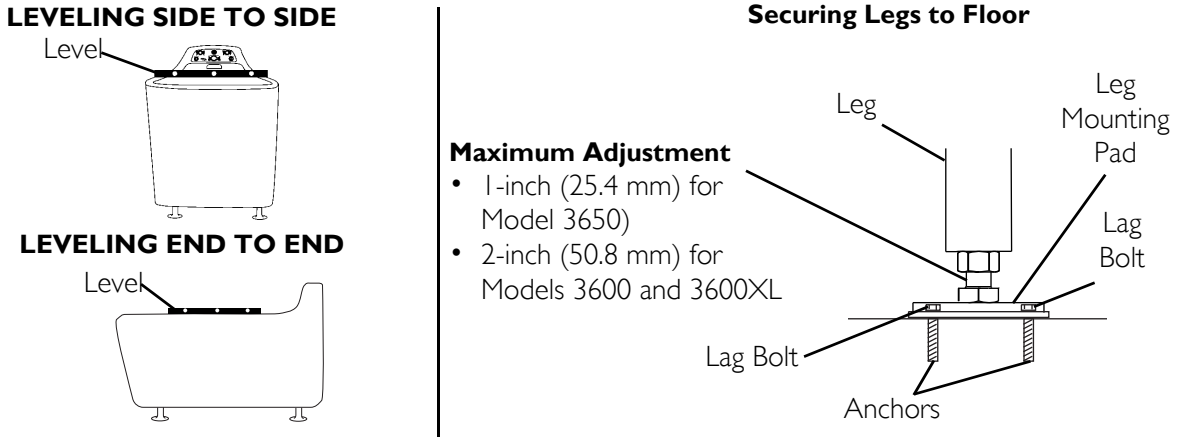


FIGURE 2.2 Securing Tub

Electrical and Plumbing Hook-up Locations on the Tub

NOTE: For this procedure, refer to FIGURE 2.3 on page 17.

NOTE: For installation details refer to Electrical Installation on page 17 and Plumbing Installation on page 20.

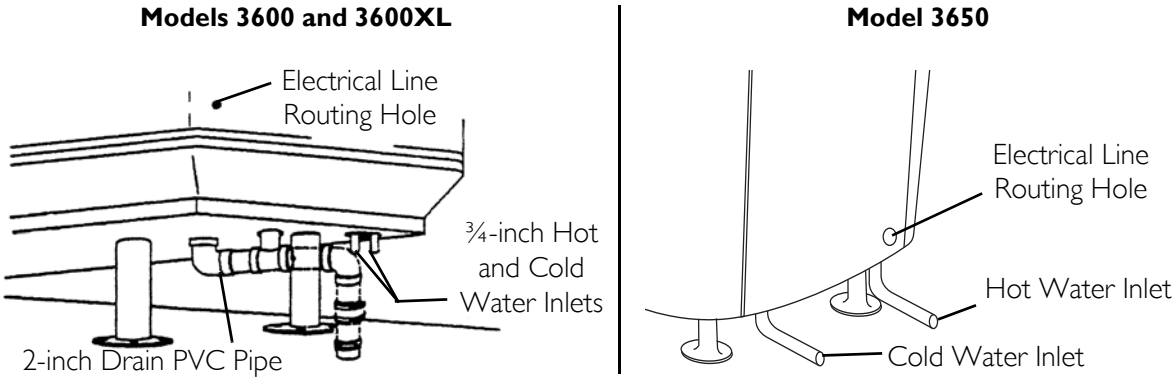


FIGURE 2.3 Electrical and Plumbing Hook-up Locations on the Tub

Electrical Installation

⚠ DANGER

When using electrical products, basic precautions should always be followed, including the following:

RISK OF ELECTRIC SHOCK. Connect the bathtub only to a circuit protected by a ground-fault circuit-interrupter (GFCI). Use a 15 AMP GFCI breaker only.

The National Electric Code requires the use of a ground fault circuit interrupter on all therapeutic pools and tubs (hydrotherapeutic tanks). Failure to follow this requirement could result in serious or fatal injury.

Grounding is required. The unit should be installed by a qualified service representative and grounded.

ELECTRICAL SHOCK HAZARD. All disassembly and maintenance of the tub MUST be done by a qualified technician, certified electrician or plumber. Be certain all electrical work is in compliance with local electrical codes.

All electrical connections are to be water resistant.

Disconnect electrical supply or turn off the circuit breaker before performing any maintenance to the tub.

All electrical conduit, fittings and wire to unit are to be supplied and installed by a professional electrician in accordance with the National electrical code as a minimum requirement, including the supply and installation of a Ground Fault Circuit Interrupter (GFCI).

Before installing and connecting the tub, make certain that the electrical power source is shut off to avoid electrical shock.

⚠ WARNING

All electrical conduit, fittings and wire to unit are to be supplied and installed by a professional electrician in accordance with the National electrical code as a minimum requirement, including the supply and installation of a Ground Fault Circuit Interrupter (GFCI).

For Canadian installation, ground fault interrupter and a 30-minute maximum timer MUST be installed in the electrical circuit. (Parts not supplied by ICCG). The unit must be operated through the circuit. The 30-minute timer must be located in a position where a person in the unit cannot reach the timer.

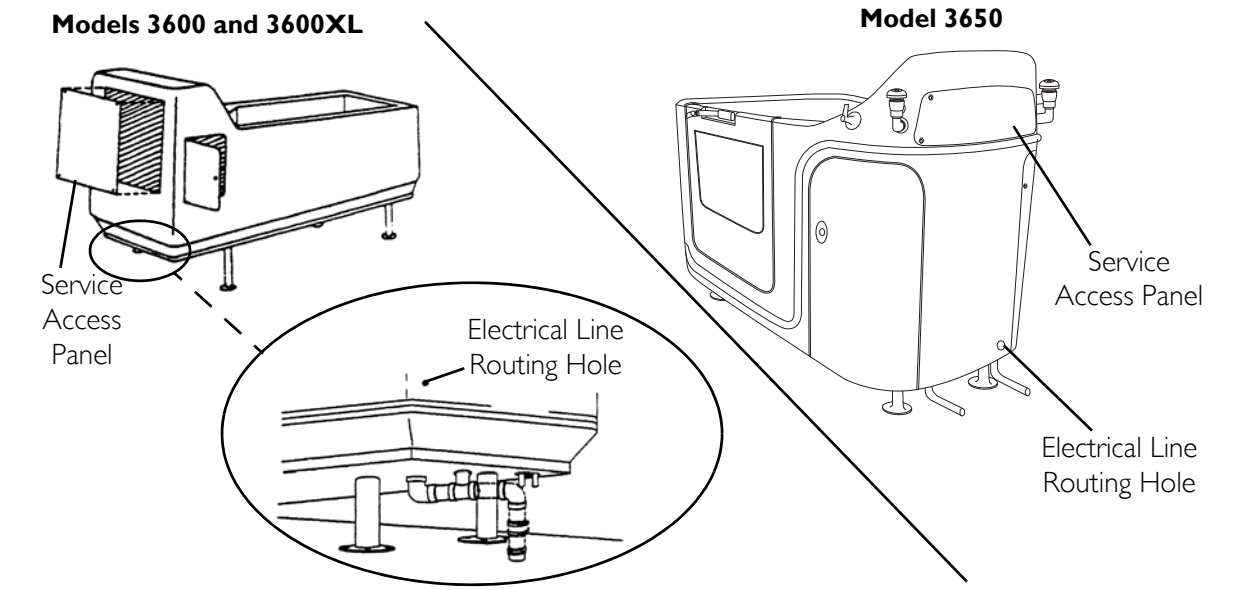
NOTE: For this procedure, refer to FIGURE 2.4 on page 19.

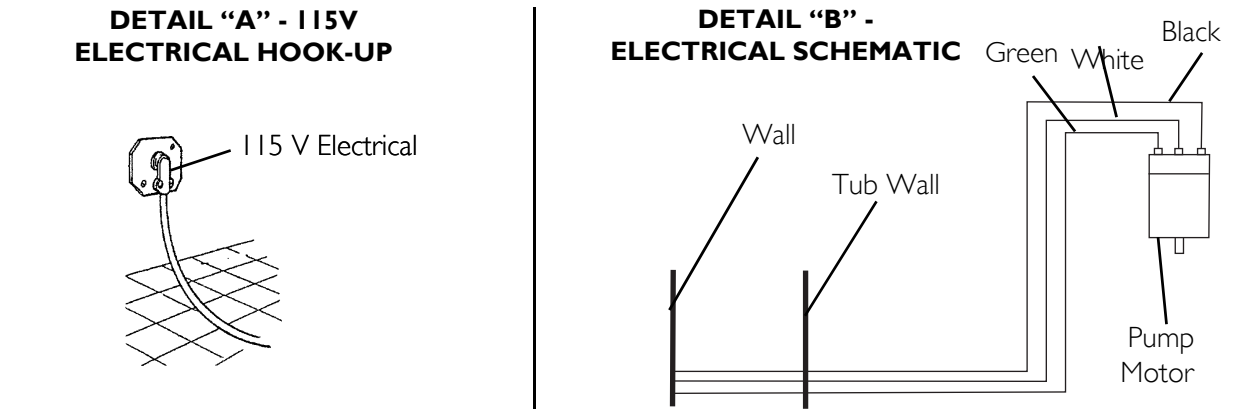
NOTE: Use 15 AMP GFCI breaker only.

1. Ensure a 15 AMP GFCI breaker is installed to protect the unit.
2. Connect the green terminal to the grounding terminal of the electric service supply panel using a continuous green insulated copper wire equivalent in size to the circuit conductors supplying this equipment, but no smaller than No. 8AWG (3.3 mm).

NOTE: The green terminal may be a wire connector marked "G", "GR", "Ground" or "Grounding".

3. Use the pressure wire connector on the exterior of the terminal box to connect the No. 8AWG (8.4 mm) solid copper bonding conductor between the unit and all other electrical equipment and exposed metal in the vicinity, to comply with local requirements.
4. Use a pneumatic air switch with the push button located on the tub deck for On/Off switching.
5. Install a 115V electrical hook-up per local electrical codes through a dedicated GFCI circuit (Detail "A").
6. Remove service access panel by removing screws, in order to access pump electric connections.
7. Route electrical line through electrical line routing hole in back panel.
8. Remove the motor cover (Detail "C").
9. Connect ground, neutral and hot wires from wall directly to motor through the electrical line routing hole in the back panel (Detail "D").





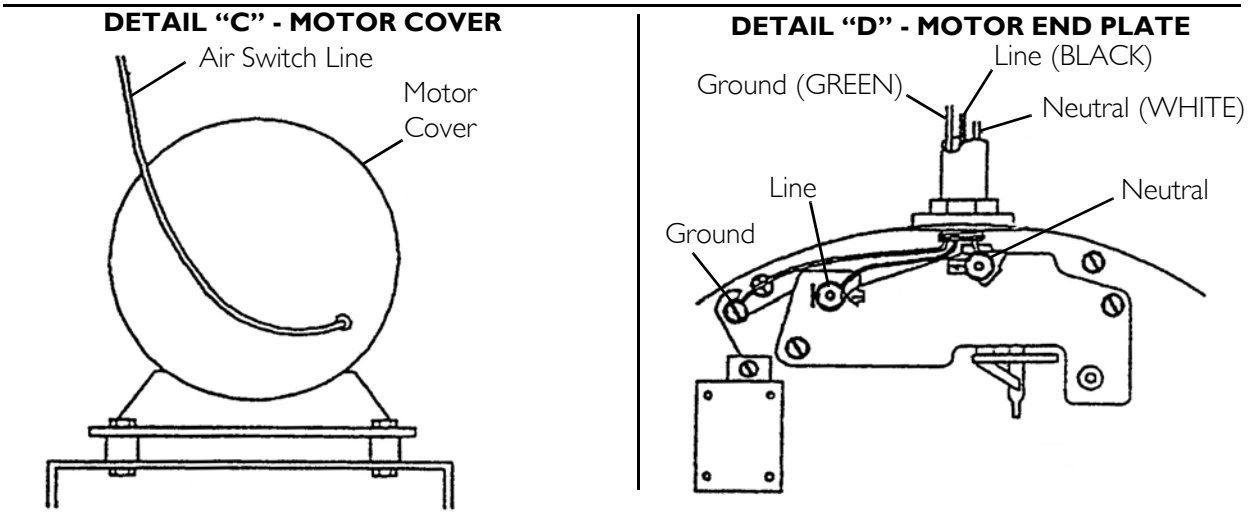


FIGURE 2.4 Electrical Installation

Plumbing Installation

⚠ DANGER

Be certain all plumbing work is performed by a qualified plumber and is in compliance with local codes.

⚠ WARNING

Some state and local plumbing codes require the installation of a "reduced pressure zone" (RPZ) assembly on both the incoming hot and cold supply lines to prevent back flow contamination into the potable water system. Invacare recommends you check local plumbing code requirements to determine if RPZs are required on your tub installation. RPZs are NOT supplied by Invacare and are to be provided by the customer if required.

The hot water supply to the tub MUST NOT exceed 110° F (46° C) to protect the user from scalding.

CAUTION

Purge water lines. Hot and cold lines MUST be purged (blown down) to clear lines of debris prior to connection. Valves and spray heads may become inoperable and/or damaged if lines are not properly cleared. Items damaged in this way are not covered under the warranty.

When operating water pressure exceeds 55 PSI, pressure regulators (similar to the ¾-inch Watts U5) MUST be installed.

NOTE: For this procedure, refer to FIGURE 2.5 on page 21.

1. Refer to Electrical and Plumbing Hook-up Locations on the Tub on page 17 for the location of the hot water stub and cold water stub.
2. Measure the location of the drain on the unit.
3. Install the drain in the floor in the appropriate location determined in STEP 2.
4. Purge water lines. Hot and cold lines MUST be purged (blown down) prior to connection, to clear lines of debris.
5. Install On/Off valves at wall and use unions between valves and stubs.
6. Connect hot and cold supply lines to ¾-inch copper pipes found on back of tub in accordance with applicable building codes.
7. Connect 2-inch drains in accordance with local plumbing codes.
8. Assemble hand held shower and disinfectant wands. Be sure to use the washers supplied.

CAUTION

DO NOT run pump without water in the tub. Serious damage could result. Pump requires water for cooling.

9. Check for leaks in supply or drain lines and check operation of tub. Refer to Operating Instructions on page 22.

NOTE: Check local codes regarding maximum water temperature allowed at hot water outlets for facility type.

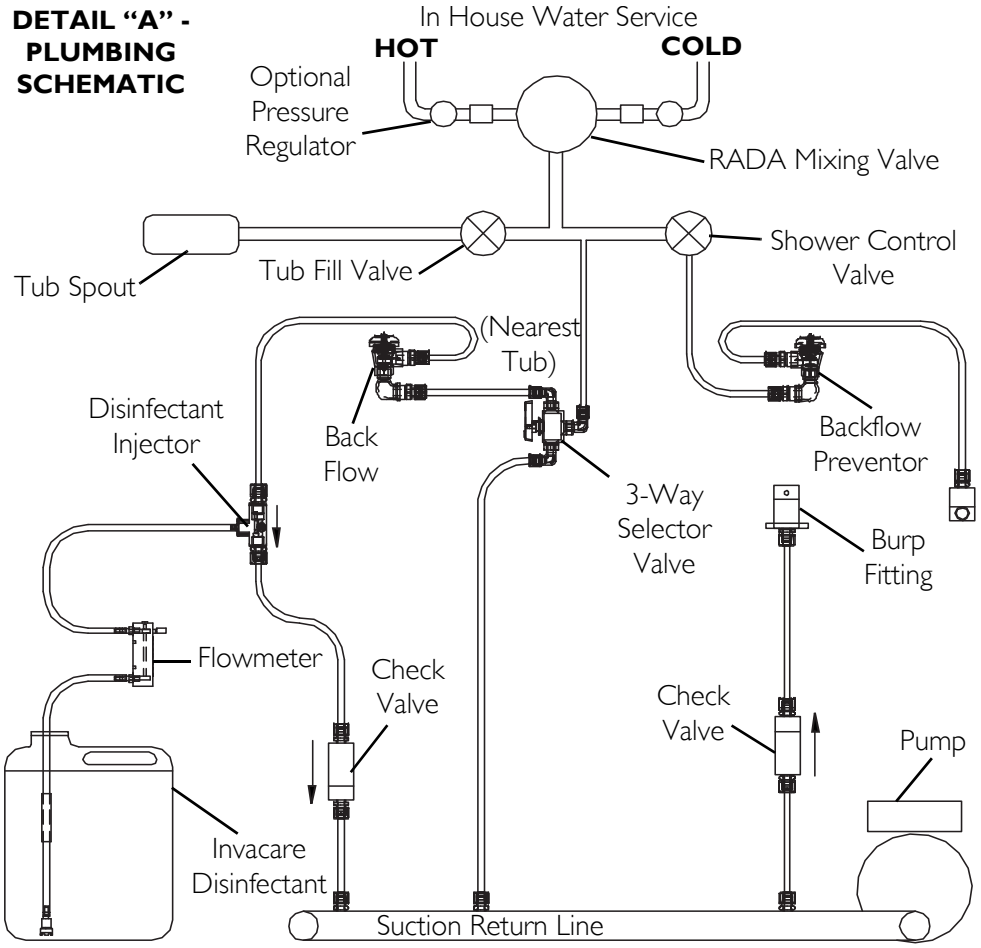


FIGURE 2.5 Plumbing Installation

Post Installation Checklist

Before putting the tub into service, check the following:

- ❑ Water lines have been purged of any foreign matter.
- ❑ Both hot and cold water lines are properly connected to tub.
- ❑ Dedicated 115V 15AMP AC power line is properly wired to unit.
- ❑ Power line is protected by a 15AMP GFCI.
- ❑ All water lines are checked for leaks.
- ❑ ICCG skin care and cleaning products have been ordered. To place your order, call 800-668-2337.
- ❑ ICCG representative has been called at 800-668-2337 to arrange for an In-Service on tub.

SECTION 3—OPERATING INSTRUCTIONS

Overview

The tub is designed to improve the efficiency and environmental safety of your facility's operation. However, if the tub is not operated or maintained properly, the benefits designed into the system will not be realized. The purpose of this manual is to provide you with recommended procedures to help you obtain the maximum efficiency and safety while using your tub.

When using the tub, perform these procedures in the following order:

1. Make sure the tub has been disinfected before use.
2. Open the tub door.
3. Transfer the resident into the tub.
4. Bathe the resident.
5. Transfer the resident from the tub.
6. Disinfect the tub, including the door seal.

Disinfecting the Tub Using the Closed Loop System

⚠ WARNING

Disinfect the tub after EACH use to avoid resident infection and contamination of the tub.

DO NOT disinfect the tub when it is occupied otherwise injury may occur.

Read and understand all information on Invacare brand disinfectant before use.

ALWAYS wear rubber gloves, an apron and a face shield when using disinfectant. In case of eye or skin contact, follow procedures on disinfectant container.

The disinfectant dispensing system has been factory tested and calibrated for use with Invacare disinfectant. The use of any disinfectant with a dilution ratio (½ oz. per gallon) or viscosity level different than that of Invacare disinfectant will result in an improper mixture of disinfectant and water. This may cause your system to be improperly disinfected - or in some instances, not disinfected at all. If using any disinfectant with a dilution ratio or viscosity level different than that of Invacare disinfectant or if switching from one type of disinfectant to another type, the disinfectant flowmeter MUST be calibrated before performing this procedure. Refer to Calibrating the Disinfectant Flow Meter on page 32.

DO NOT use the disinfectant wand for showering. The disinfectant wand is to be used for disinfecting ONLY.

CAUTION

NEVER use abrasive cleaners like scouring powder or liquid cleaners containing pumice stone. The use of these types of cleaners will make the gel-coat finish of your tub scratched and dull. NEVER use cleaners containing iodine, bromine, Betadine or methylene blue. The use of these types of cleaners will cause the tub to stain. Never use cleaners containing bleach. Use of these types of cleaners will dry out the rubber seals and gaskets and the tub will not function properly.

NOTE: For this procedure, refer to FIGURE 3.1.

NOTE: Ensure that the whirlpool jets and whirlpool inlet fitting are closed before starting this procedure.

1. Clean the entire tub surface to remove visible tissue residue and fluid.
2. Depending on the type of whirlpool jets that are in your tub, close all jets by performing one of the following:
 - Turn the center of the jet clockwise to a full stop.
 - Push the center of the jet in.
3. Close the whirlpool inlet by gently pulling the plug in the center of the inlet cover outward until it stops.
4. Open aerator by rotating aerator knob two turns counter-clockwise.
5. Open disinfectant cabinet.
6. Ensure that disinfectant siphon tube is placed in disinfectant container.
7. If tub is equipped with a disinfectant wand, hold the wand over the interior of the tub.
8. Adjust water temperature to 105°F (40°C).
9. Turn disinfectant On/Off valve to the On position.

NOTE: Liquid will begin flowing from the disinfectant wand into the tub (if so equipped).

10. Turn the adjustment knob on the flowmeter until the floating ball rises to a level of 35 cc/min.

NOTE: At 35 cc/min., disinfectant is being mixed with water at the proper ratio.

11. Continue to hold the disinfectant wand over the interior of the tub (if so equipped).

NOTE: When disinfectant has totally filled the interior plumbing, liquid will begin to flow from the burp fitting located inside the tub bowl near the rim or from the disinfectant wand.

NOTE: Invacare recommends that you thoroughly scrub all interior surfaces of the tub with disinfectant. The use of a long-handled brush will make this operation easier.

12. Perform one of the following:
 - Allow some liquid to pool in the bottom of the tub. Scrub all interior surfaces of the tub, including the whirlpool jets, overflow fitting and whirlpool inlet fitting with disinfectant.
 - If the tub is equipped with a disinfectant wand, spray the interior surfaces of the tub, including the whirlpool jets, overflow fitting and whirlpool inlet fitting with disinfectant. Scrub all interior surfaces.
13. Turn the disinfectant On/Off valve to the Off position.
14. Return disinfectant wand to its holder (if so equipped).
15. After scrubbing the interior surfaces, leave the disinfectant in the loop and on the tub surfaces for ten minutes.
16. Use the shower/massage wand on the pulse setting and direct the spray into both whirlpool jets to back flush until the water discharging from the whirlpool inlet is clear.
17. Rinse all interior tub surfaces.
18. Reverse STEPS 2 and 3 to open the whirlpool jets and inlet.

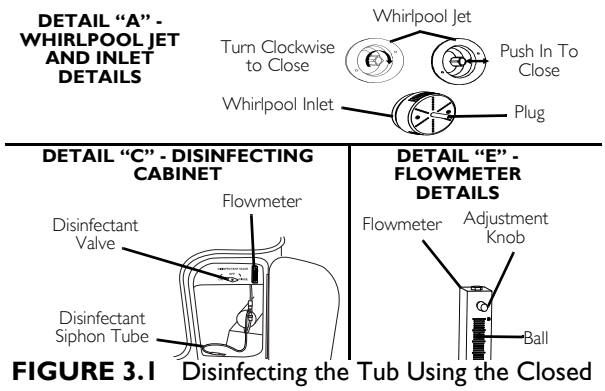


FIGURE 3.1 Disinfecting the Tub Using the Closed Loop System

Opening/Closing the Tub Door

⚠ WARNING

DO NOT open door when water is in the tub, serious injury could result.

NOTE: For this procedure, refer to FIGURE 3.2 on page 24.

Opening the Tub Door

1. Place one hand on top of the door handle.
2. Use the other hand to pull the safety pin out and release the door handle.
3. Lift up on the door handle and open the door.

Closing the Tub Door

⚠ WARNING

DO NOT fill or use tub if door does not lock - otherwise serious injury or damage may result. If the door does not lock, contact a qualified maintenance technician.

1. Close the door.
2. Push down on the door handle to lock door into position.
3. Lift the door handle to ensure the safety pin has engaged the door properly.
4. If the door handle lifts, repeat STEPS 1-3.

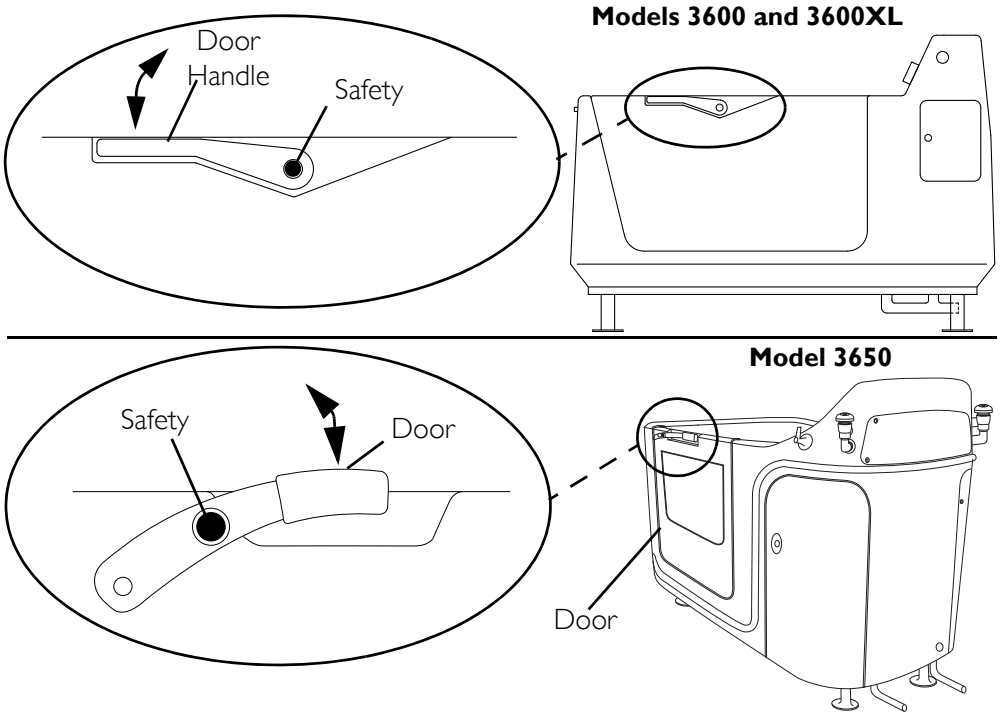


FIGURE 3.2 Opening/Closing the Tub Door

Tub Operation

⚠ WARNING

DO NOT stand in tub. Tub surfaces are slippery when wet. Serious injury may occur.

Before immersing the resident or operating the shower/massage wand, check that the water temperature is between 95° F and 105° F (35° C and 41° C) to avoid scalding the resident.

Disinfect the tub after each use to avoid resident contamination.

Water Temperature Setting

⚠ WARNING

ALWAYS hand test the incoming water temperature and the water temperature in the tub before immersing the resident. Failure to do so may result in a scalding injury.

The causes, symptoms, and effects of hyperthermia may be described as follows: Hyperthermia occurs when the internal temperature of the body reaches a level several degrees above the normal body temperature of 98.6° F. The symptoms of hyperthermia include an increase in the internal temperature of the body, dizziness, lethargy, drowsiness, and fainting. The effects of hyperthermia include:

- **Failure to perceive heat**
- **Failure to recognize the need to exit the spa or hot tub**
- **Unawareness of impending hazard**
- **Fetal damage in pregnant women**
- **Phyical inability to exit the spa or hot tub**
- **Unconsciousness resulting in the danger of drowning**

The use of alcohol, drugs, or medication can greatly increase the risk of fatal hyperthermia.

NOTE: For this procedure, refer to FIGURE 3.3.

Flow Water Thermometer - measures the temperature of water coming from the tub fill spout or shower/massage wand.

Water Temperature Control Valve - sets and maintains constant temperature for all incoming water.

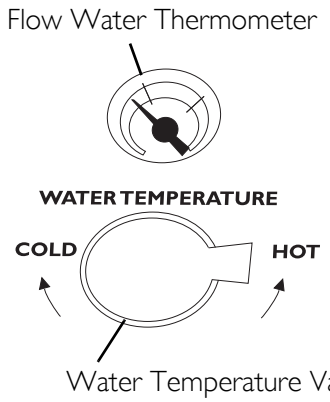


FIGURE 3.3 Water Temperature Setting

Operating Shower/Massage Wand

NOTE: For this procedure, refer to FIGURE 3.4.

NOTE: STEPS 1 - 3 are to be performed while holding the shower/massage wand over the tub.

1. Turn shower/massage wand on to desired flow by rotating shower On/Off valve (Detail "A").
2. Adjust water temperature using the water temperature valve while watching the flow water thermometer (Detail "B").
3. Adjust shower spray by rotating shower wand head (Detail "C").

NOTE: Refer to following chart for shower head adjustment settings.

	Stream
	Shower Spray
	Mixture of Spray and Pulse Massage
	Pulse Massage

4. Turn shower On/Off valve to off position when finished.

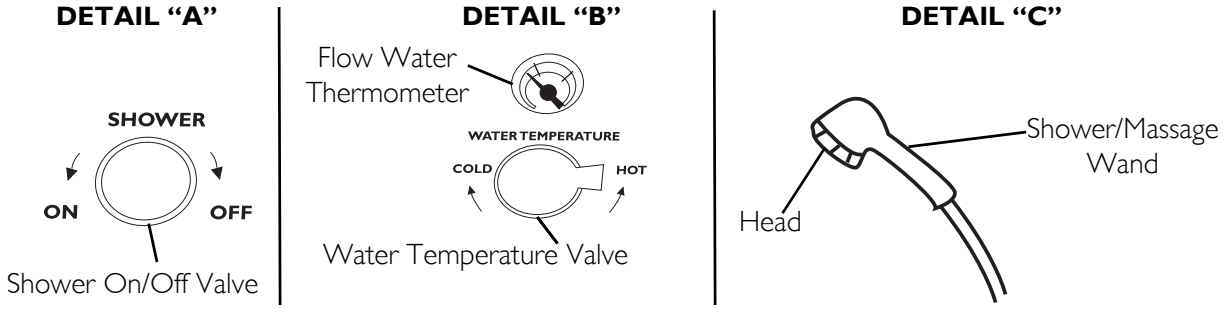


FIGURE 3.4 Operating Shower/Massage Wand

Filling Tub

NOTE: For this procedure, refer to FIGURE 3.5 on page 27.

1. Close the drain (Detail "A").
2. Turn tub fill On/Off valve to on position by rotating valve (Detail "B").
3. Adjust water temperature using the water temperature valve while watching flow water thermometer (Detail "C").

CAUTION

Before starting hydromassage, water level MUST be completely above whirlpool jets otherwise severe damage to the motor/pump will result.

4. Turn tub fill On/Off valve to off position when water reaches desired level (Detail "B").

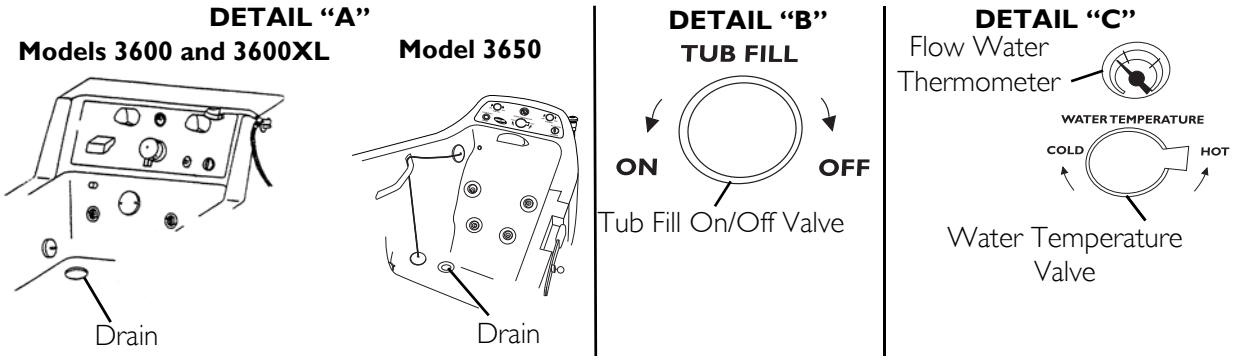


FIGURE 3.5 Filling Tub

Hydromassage

CAUTION

Before starting hydromassage, water level MUST be completely above whirlpool jets otherwise severe damage to the motor/pump will result.

NOTE: For this procedure, refer to FIGURE 3.6 on page 27.

1. Close the aerator by rotating the aerator valve two turns clockwise.
2. Open the whirlpool inlet by pushing the inlet plug in.
3. Open all whirlpool jets by pulling the center of the whirlpool jet out or rotating the center counterclockwise (Detail "A").
4. Fill the tub. Refer to Filling Tub on page 26.
5. After water level covers whirlpool jets and after bathing the resident, add Invacare Defoamer to bath water. Refer to Defoamer bottle for directions.
6. Push whirlpool On/Off (Detail "B") button to start whirlpool jets.
7. Adjust the whirlpool aerator for desired water agitation by rotating the whirlpool aerator (Detail "C").
8. After use, push whirlpool On/Off button (Detail "B") to stop whirlpool jets.
9. Drain tub.

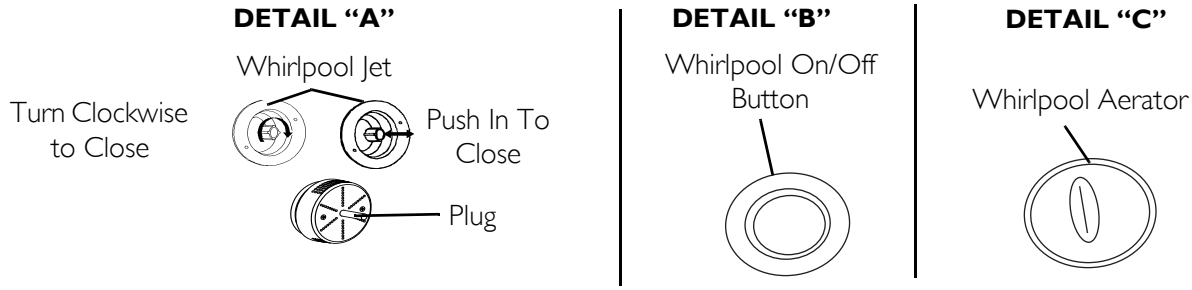


FIGURE 3.6 Hydromassage

SECTION 4—SAFETY INSPECTION/ TROUBLESHOOTING

NOTE: Every six months or as necessary have a qualified technician perform a thorough inspection and servicing. Routine maintenance will extend the life and efficiency of your tub.

Safety Inspection Checklists

Initially

- ❑ Ensure that the maximum water supply temperature does not exceed 115° F.
- ❑ Ensure that the maximum water pressure does not exceed 65 PSI.
- ❑ Verify the water flow temperature with a separate thermometer.
- ❑ Visually inspect for cracks in the tub surface.
- ❑ Ensure that the door handle locks the door closed.
- ❑ Ensure that the safety pin properly engages the door.
- ❑ Check that all labels are present and legible. Replace if necessary.

Before Each Use

- ❑ Disinfect the tub.
- ❑ Ensure that the maximum water supply temperature does not exceed 115° F.
- ❑ Ensure that the maximum water pressure does not exceed 65 PSI.
- ❑ Visually inspect for cracks in the tub surface.
- ❑ Ensure that the door handle locks the door closed.
- ❑ Ensure that the safety pin properly engages the door.

Every 80-150 Baths

- ❑ Perform the heavy duty cleaning procedure on the tub. Refer to warning on page 30.

Every Six Months

- ❑ Verify the water flow temperature with a separate thermometer.
- ❑ Check that all labels are present and legible. Replace if necessary.
- ❑ Clean RADA valve to remove lime deposits.

Cleaning

Cleaning the Door Seal Gasket

The rubber door seal gasket should remain clean and free of debris. Use a working solution of a commercially available heavy duty cleaner such as Invacare's Heavy Duty Cleaner and a sponge to thoroughly wipe the entire length of the rubber seal, making sure to remove all traces of soap scum and other debris.

Removing Soap Film and Hard Water Deposits

Use a commercially available cleaner such as Invacare's Heavy Duty Cleaner to thoroughly spray the exposed surfaces, including the openings of the tub jets and tub suction fitting. Use a long handled soft brush or similar product to wipe down all surfaces and allow the heavy duty cleaner to remain in contact with the exposed surfaces for approximately ten minutes. Rinse off surfaces using the shower wand, adjusted to spray position.

Removing Calcium Deposits, Scale and Lime Build-up

Spray a commercially available cleaner (full strength) for the intended application on all surfaces to be cleaned. Allow the cleaner to remain in contact with surfaces for at least five minutes to as long as 12 hours. Rinse off surfaces using the shower wand, adjusted to the spray position. Use the cleaner according to the manufacturer's instructions.

Cleaning Your Tub

In addition to disinfecting your tub after every use, you will need to do the heavy duty “Shock Treatment” approximately once every 80-150 baths.

Heavy Duty Cleaning Procedure

⚠ WARNING

The disinfectant dispensing system has been factory tested and calibrated for use with Invacare disinfectant. The use of any disinfectant with a dilution ratio (½ oz. per gallon) or viscosity level different than that of Invacare disinfectant will result in an improper mixture of disinfectant and water. This may cause your system to be improperly disinfected - or in some instances, not disinfected at all. If using any disinfectant with a dilution ratio or viscosity level different than that of Invacare disinfectant or if switching from one type of disinfectant to another type, the disinfectant flowmeter must be calibrated before performing this procedure. Refer to Calibrating the Disinfectant Flow Meter on page 31.

ALWAYS wear rubber gloves, an apron and face shield protection during disinfecting, cleaning and rinsing procedures. In case of eye or skin contact, follow procedures on disinfectant container.

CAUTION

NEVER use abrasive cleaners like scouring powder or liquid cleaners containing pumice stone. The use of these types of cleaners will make the gel-coat finish of your tub scratched and dull. NEVER use cleaners containing iodine, bromine, Betadine or methylene blue. The use of these types of cleaners will cause the tub to stain. Never use cleaners containing bleach. Use of these types of cleaners will dry out the rubber seals and gaskets and the tub will not function properly.

Before starting the whirlpool pump, the water level must be completely above the whirlpool jets. Otherwise damage to the motor/pump will result.

In addition to disinfecting your tub after every use, you will need to perform this procedure approximately once every 80-150 baths.

1. Clean the entire surface of the tub to remove visible tissue residue and fluid.
2. Rinse the inside surface of the tub with the shower/massage wand on the spray setting.
3. Rotate the water temperature valve to adjust the water temperature to approximately 105° F.

NOTE: This will maximize the cleaning solution's ability to clean and disinfect the system.

4. Close the drain.
5. Make sure the whirlpool jets are open.
6. Fill the tub one inch above the highest whirlpool jets.
7. Add the Invacare Heavy Duty Cleaner to the water in the tub. Refer to the chart for the proper amount.
8. Spray pre-mixed Invacare Heavy Duty Cleaner on the remaining surfaces.
9. Press the whirlpool on/off button to turn on the whirlpool pump and let the pump run for 60 seconds.
10. Turn off the pump and allow the heavy duty cleaner/water solution to remain in the tub for 10 minutes.
11. During this ten-minute waiting time, take a long handled brush and thoroughly scrub all interior surfaces of the tub.
12. Open the drain to allow the heavy duty/water solution to drain from the tub.
13. Use the shower/massage wand on the pulse setting and direct the spray into both whirlpool jets to back flush until the water discharging from the whirlpool inlet is clear.
14. Rinse the tub thoroughly with the shower wand on the spray setting.
15. Check the tub for damage and to ensure all surfaces of the tub are clean and that no visible residue remains. If residue is found, repeat STEPS 13 and 14

TUB MODEL NUMBER	WATER REQUIRED TO COVER JETS (GALLONS)	INVACARE HEAVY DUTY CLEANER REQUIRED (OZ)*
2800	10	40
2001	32	128
3700	30	120
3750	30	120
3800	30	120
3600	30	120
3650	48	192
3600XL	48	192
2300	25	100
3300	30	120
4300	35	140
4300HL	35	140
5300	52	208
5300HL	52	208
6300	50	200
6300ADH	50	200
4400SS	48	192
5400SS	50	200

**NOTE: If using non-Invacare heavy duty cleaner, refer to the instructions supplied with the cleaner to determine the proper amount required.*

Calibrating the Disinfectant Flow Meter

⚠ WARNING

The disinfectant dispensing system has been factory tested and calibrated for use with Invacare disinfectant. The use of any disinfectant with a dilution ratio (½ oz. per gallon) or viscosity level different than that of Invacare disinfectant will result in an improper mixture of disinfectant and water. This may cause your system to be improperly disinfected - or in some instances, not disinfected at all. If using any disinfectant with a dilution ratio or viscosity level different than that of Invacare disinfectant or if switching from one type of disinfectant to another type, the disinfectant flowmeter MUST be calibrated using this procedure before disinfecting the tub.

This procedure should only be attempted by qualified maintenance personnel. Failure to heed these precautions could result in injury to the tub operator or resident.

ALWAYS wear rubber gloves, an apron and face shield protection during disinfecting, cleaning and rinsing procedures. In case of eye or skin contact, follow procedures on disinfectant container.

NOTE: For this procedure, refer to FIGURE 4.1 on page 33.

NOTE: Equipment needed:

- *Bucket or Pail, at least 1 Gallon*
- *Graduated plastic bottle, at least 16 ounces*
- *Felt Tip Pen*

1. Open the whirlpool aerator by rotating two turns counterclockwise.
2. If the tub is equipped with a disinfectant wand, hold the wand over the interior of the tub.
3. Pour exactly one gallon of water into the bucket/pail.
4. Mark the bucket/pail at the gallon level using the felt tip pen.
5. Empty the bucket/pail.
6. Pour a whole number of ounces of disinfectant into the graduated plastic bottle.

NOTE: For example, pour 2 or 3-ounces, but not 2½-ounces, otherwise the results will be skewed.

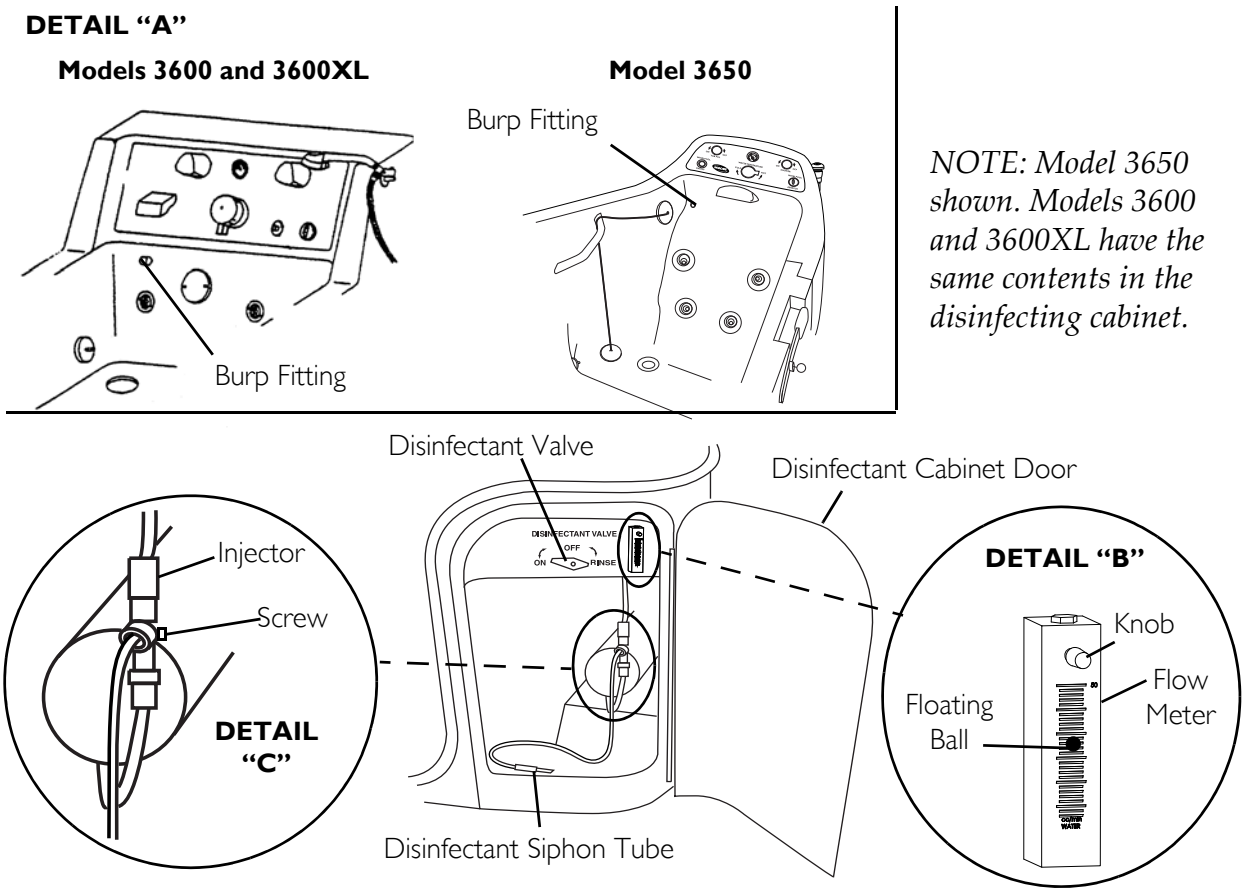
NOTE: DO NOT use water instead of disinfectant. This would cause a false reading.

7. Note the number of ounces in the graduated plastic bottle.
8. Open the service access cabinet door.
9. Insert the disinfectant draw tube into the graduated plastic bottle.
10. Turn the black knob on the flow meter valve five turns counterclockwise to open the metering valve.

11. Close all jets by pushing the center of each jet in or turning the center of the jet clockwise.
12. Close the whirlpool inlet by pulling the inlet plug out.
13. Turn the disinfectant valve to the on position.

NOTE: Liquid will be heard filling the interior plumbing of the tub.

14. Note the position of the floating ball in the flow meter.
15. Adjust the injector by performing one of the following:
 - Bottom of Floating Ball Reads Greater Than 35 - Less disinfectant needs to be added to the mixture. Loosen the screw on the injector to draw less disinfectant into the solution.
 - Bottom of Floating Ball Reads Less Than 35 - More disinfectant needs to be added to the mixture. Tighten the screw on the injector to draw more disinfectant into the solution.
16. When the bottom of the floating ball is near 35, turn the black adjustment knob on the flow meter until the bottom of the floating ball is at 35.
17. Place the bucket/pail under the burp fitting to collect the disinfectant. Use a funnel if necessary.
18. Note the number of ounces in the graduated plastic bottle.
19. Let the bucket/pail fill to one gallon.
20. Turn the disinfectant valve to the off position.
21. Remove the disinfectant draw tube from the plastic bottle.
22. Examine the amount of disinfectant remaining in the plastic bottle.
23. Subtract the amount of disinfectant remaining from the amount noted in STEP 18.
24. Perform one of the following:
 - Approximately ½-ounce of disinfectant has been used - Proceed to STEP 23.
 - Much more or much less than ½-ounce of disinfectant has been used - repeat STEPS 1-18.
25. Position the disinfectant draw tube into the disinfectant solution.
26. Disinfect the tub. Refer to Disinfecting the Tub Using the Closed Loop System on page 23.



NOTE: Model 3650 shown. Models 3600 and 3600XL have the same contents in the disinfecting cabinet.

FIGURE 4.1 Calibrating the Disinfectant Flow Meter

Troubleshooting

SYMPTOMS	FAULTS	SOLUTION
Hydromassage System		
System will not start.	No electrical power to tub.	Check and reset breaker.
	System not prepared.	Be sure water level is ABOVE jets.
		Check that inlet plug on tub is depressed.
	Switch hose disconnected	Reconnect hose to switch and motor.
System is ineffective.	Water deposits in whirlpool jets.	Disassemble and clean whirlpool jets.
	Whirlpool jets closed.	Open whirlpool jets.
	Aerator closed.	Open aerator.
	Whirlpool intake clogged.	Inspect intake and remove obstruction.
Tub Operation		
No water flow.	Water supply turned off.	Turn on water supply.
Restricted water flow.	RADA valve. Refer to RADA owner's manual	Inspect and clean RADA valve.

NOTE: If problems are not remedied by the suggested means above, contact an ICCG dealer or technical support.

Maintenance Record

DATE	MAINTENANCE PERSON	TYPE OF MAINTENANCE PERFORMED	NOTES

NOTES

LIMITED WARRANTY

PLEASE NOTE: THE WARRANTY BELOW HAS BEEN DRAFTED TO COMPLY WITH FEDERAL LAW APPLICABLE TO PRODUCTS MANUFACTURED AFTER JULY 4, 1975.

This warranty is extended only to the original purchaser/user of our products.

This warranty gives you specific legal rights and you may also have other legal rights which vary from state to state.

Invacare Continuing Care Group (ICCG) warrants its bathing/whirlpool products to be free from defects in materials and workmanship for a period of three years from the date of purchase. Warranty obligation is limited to parts replacement only. Warranty replacement parts are only covered for the duration of the warranty period. All purchased replacement parts will carry a 30-day warranty from the date of shipment. If within such warranty period any such product shall be proven to be defective, such product shall be repaired or replaced, at ICCG's option. This warranty does not include any labor or shipping charges incurred in replacement part installation or repair of any such product. ICCG's sole obligation and your exclusive remedy under this warranty shall be limited to such repair and/or replacement.

For warranty service, please contact the dealer from whom you purchased your ICCG product. In the event you do not receive satisfactory warranty service, please write directly to ICCG at the address below. Provide dealer's name, address, model number, date of purchase, indicate nature of the defect and, if the product is serialized, indicate the serial number.

ICCG will issue a return authorization. The defective unit or parts must be returned for warranty inspection using the serial number, when applicable, as identification within thirty days of return authorization date. DO NOT return products to our factory without our prior consent. C.O.D. shipments will be refused; please prepay shipping charges.

LIMITATIONS AND EXCLUSIONS: THE WARRANTY SHALL NOT APPLY TO PROBLEMS ARISING FROM NORMAL WEAR OR FAILURE TO ADHERE TO THE ENCLOSED INSTRUCTIONS. LABOR; EXPENDABLE ITEMS, I.E. SHOWER HOSES, VALVES, "O" RINGS, SEALS; PARTS BROKEN DUE TO ABUSE OR IMPROPER USE; ITEMS THAT BECOME INOPERABLE DUE TO LACK OF MAINTENANCE, OR NON COMPATIBLE CHEMICALS; STAINS DUE TO HARD WATER, IODINE SOLUTIONS, OR OTHER UNAPPROVED CHEMICALS; "SPIDER" CRACKS OR "CRACKING" DUE TO MISHANDLING OR ABUSE. IN ADDITION, THE FOREGOING WARRANTY SHALL NOT APPLY TO SERIAL NUMBERED PRODUCTS IF THE SERIAL NUMBER HAS BEEN REMOVED OR DEFACED; PRODUCTS SUBJECTED TO NEGLIGENCE, ACCIDENT, IMPROPER OPERATION, MAINTENANCE OR STORAGE; OR PRODUCTS MODIFIED WITHOUT ICCG'S EXPRESS WRITTEN CONSENT INCLUDING, BUT NOT LIMITED TO: MODIFICATION THROUGH THE USE OF UNAUTHORIZED PARTS OR ATTACHMENTS: PRODUCTS DAMAGED BY REASON OF REPAIRS MADE TO ANY COMPONENT WITHOUT THE SPECIFIC CONSENT OF ICCG; PRODUCTS DAMAGED BY CIRCUMSTANCES BEYOND ICCG'S CONTROL; PRODUCTS REPAIRED BY ANYONE OTHER THAN AN ICCG DEALER, SUCH EVALUATION SHALL BE SOLELY DETERMINED BY ICCG.

THE FOREGOING EXPRESS WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY OTHER WARRANTIES WHATSOEVER, WHETHER EXPRESS OR IMPLIED, INCLUDING THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND THE SOLE REMEDY FOR VIOLATIONS OF ANY WARRANTY WHATSOEVER, SHALL BE LIMITED TO REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT PURSUANT TO THE TERMS CONTAINED HEREIN. THE APPLICATION OF ANY IMPLIED WARRANTY WHATSOEVER SHALL NOT EXTEND BEYOND THE DURATION OF THE EXPRESS WARRANTY PROVIDED HEREIN. THE MANUFACTURER SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES WHATSOEVER.

THIS WARRANTY SHALL BE EXTENDED TO COMPLY WITH STATE/PROVINCIAL LAWS AND REQUIREMENTS.

INVACARE®

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